

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Yasuhiro OMURA et al.

Application No.: 10/525,372

Docket No.: 122800

Filed: February 23, 2005

For: PROJECTION OPTICAL SYSTEM AND METHOD FOR PHOTOLITHOGRAPHY AND
EXPOSURE APPARATUS AND METHOD USING SAME

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

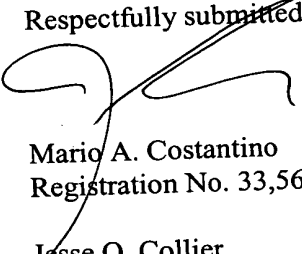
Sir:

Pursuant to 37 CFR §1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO-1449. Unless otherwise indicated herein, one copy of each reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

- ☒ 1. This Information Disclosure Statement is being filed (a) within three months of the U.S. filing date of this non-CPA application, OR (b) before the mailing date of a first Office Action on the merits in the present application. No certification or fee is required.
- ☒ 2. Relevance of the English and non-English language references 2, 7, 22, 24, 26 & 27 is discussed in the present specification.
- ☒ 3. References 11-15 were cited in the International Search Report. An English language version of the International Search Report is attached for the Examiner's information.
- ☒ 4. In accordance with 37 CFR §1.98(a)(2)(ii), copies of any U.S. patents and patent application publications are not attached.
- ☒ 5. An English language Abstract of the non-English language reference 14 is attached hereto.

- ☒ 6. A computer-generated English language translation of the following Japanese Patent Publication has been obtained from the website of the Japanese Patent Office (<http://www.jpo.go.jp>), and is attached, but has not been reviewed for accuracy. See Reference 14.
- ☒ 7. Reference 11 corresponds to reference 14 and reference 10 corresponds to reference 15.

Respectfully submitted,


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Date: June 30, 2005

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<p>DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
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Form PTO-1449 (REV. 8-83)		US Dept. of Commerce PATENT & TRADEMARK OFFICE		ATTY DOCKET NO. 122800		APPLICATION NO. 10/525,372	
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)				APPLICANTS Yasuhiro OMURA et al.			
				FILING DATE February 23, 2005			
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	
	1	4,480,910	11/06/1984	TAKANASHI et al.			
	2	4,509,852	04/09/1985	TABARELLI et al.			
	3	5,121,256	06/09/1992	CORLE et al.			
	4	5,610,683	03/11/1997	TAKAHASHI			
	5	5,900,354	05/04/1999	BATCHELDER			
	6	6,020,964	02/01/2000	LOOPSTRA et al.			
	7	20010040722 A1	11/15/2001	SHAFER et al.			
	8	20030011755 A1	01/16/2003	OMURA et al.			
	9	20030004757 A1	01/02/2003	HAINES			
	10	20030174408 A1	09/18/2003	ROSTALSKI et al.			
	11	20030030916 A1	02/13/2003	SUENAGA			
	12	6,191,429	02/20/2001	SUWA			
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	
	13	EP 0 605 103 B1	07/06/1994	EUROPE			
	14	JP A 2002-244035 w/abstr. & trans.	08/28/2002	JAPAN			
	15	WO 03/077037 A1	09/18/2003	WIPO			
	16	EP 0 023 231 B1	02/04/1981	EUROPE			
	17	WO 99/49504	09/30/1999	WIPO			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)							
	18	Kawata et al; "Fabrication of 0.2µm Fine Patterns Using Optical Projection Lithography with an Oil Immersion Lens"; Jpn. J. Appl. Phys. Vol. 31 (1992) pp. 4174-4177; Part 1, No. 128, December 1992					
	19	Feuer et al; "Projection Photolithography-Liftoff Techniques for Production of 0.2µm Metal Patterns"; IEEE Transactions On Electron Devices, Vol. 28, No. 11, pp. 1375-1378, November 1981					
EXAMINER					DATE CONSIDERED		
Examiner: Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

Date: June 30, 2005

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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)							
	20	Baek et al; "Simulation Study of Process Latitude for Liquid Immersion Lithography"; Optical Microlithography XVI, Vol. 5040 (2003), pp. 1620-1630					
	21	Hafeman et al; "Simulation of imaging and stray light effects in immersion lithography"; Optical Microlithography XVI, Vol. 5040 (2003), pp. 700-712					
	22	Kawata et al; "Optical Projection Lithography Using Lenses with Numerical Apertures Great than Unity"; Microelectronic Engineering 9 (1989), pp. 31-36					
	23	Owa et al; "Immersion Lithography; its potential performance and issues"; Optical Microlithography XVI, Vol. 5040 (2003), pp. 724-733					
	24	Owen et al; "1/8 μ m optical lithography"; J. Vac. Sci. Technol. B 10(6), Nov/Dec 1992, pp. 3032-3036					
	25	Smith et al; "Water Immersion Optical Lithography for the 45nm Node"; Optical Microlithography XVI, Vol. 5040 (2003), pp. 679-689					
	26	Switkes et al; "Resolution enhancement of 157 nm lithography by liquid immersion"; JM ³ 1(3), October 2002, pp. 225-228					
	27	Ulrich et al; "The Development of Dioptric Projection Lenses for DUV Lithography"; International Optical Design Conference 2002, Vol. 4832 (2002), pp. 158-169					
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